

What is claimed is:

1. A structure for a semiconductor device, provided with a contact plug, which is formed by forming a contact hole through a first interlayer insulating film on a silicon substrate and by filling the contact hole with silicon, comprising:
 - a silicide pad formed on the top surface of the silicon plug in a self-aligning manner and having a diameter which is larger than that of the silicon plug;
- 5 wherein, the top surface of said silicide pad is formed above the top surface of said first interlayer insulating film.
2. A structure of a semiconductor device according to claim 1, wherein said silicide pad is formed by a refractory metal silicide.
3. A structure of a semiconductor device according to claim 1, wherein said refractory metal silicide is any one of titanium silicide and cobalt silicide.
4. A method for manufacturing a semiconductor device, provided with a contact plug, which is formed by opening a contact hole through a first interlayer insulating film formed on a silicon substrate and filling the contact hole with silicon, comprising the steps of:
 - 5 forming a first insulating film on said silicon substrate;
 - forming said contact hole through said first interlayer insulating film;
 - filling said contact hole with a silicon plug; and
 - forming a silicide pad having a larger diameter than that of said silicon plug in a self-aligning manner;

10 wherein, the top surface of said silicide pad is disposed above the top surface of
said first interlayer insulating surface.

5. A method for manufacturing a semiconductor device according to claim 4, wherein the step of forming said silicide pad includes the steps of:

selectively and partially removing the insulating film and silicon at least in the vicinity of said contact plug such that the plug protrudes;

5 depositing a refractory metal film;

converting the refractory metal film into the refractory metal silicide by a heat treatment; and

removing said refractor metal film remaining without being converted into silicide and reaction products between said refractory metal and an atmospheric gas during the heat treatment.

10 heat treatment.

6. A method for manufacturing a semiconductor device according to claim 5, wherein said refractory metal is at least any one of titanium and cobalt.